IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

APELDYN CORPORATION,	)	
	)	
Plaintiff,	)	
	)	
v.	)	Civ. No. 08-568-SLR
	)	
AU Optronics Corporation, AU Optronics Corporation America, Chi Mei Optoelectronics Corporation, and Chi Mei Optoelectronics USA Inc., et al.	)	
	)	
Defendants.	)	

MEMORANDUM ORDER

At Wilmington this 15th day of November, 2011, consistent with the memorandum opinion issued this same date and with the tenets of claim construction set forth by the United States Court of Appeals for the Federal Circuit in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005);

IT IS ORDERED that the disputed claim language of the patent in suit, U.S. Patent No. 5,347,382 ("the '382 patent"), shall be construed as follows:

1. "**[F]irst retarder means for controlling the retardance of light passing therethrough along a first eigen-axis thereof relative to a second eigen-axis thereof in response to the application of a first signal thereto**:"

§ 112 ¶ 6 function: In response to the application of an electrical charge to the liquid crystal material, the liquid crystal cell can selectively vary the light output of polarized light beams passing therethrough. Each polarized light beam entering the liquid crystal cell has two components which are traveling in phase. These two

components are orthogonal (intersecting) and disposed ninety degrees to each other. Each of these two components is called an "eigen-axis." As the polarized light beam passes through the charged liquid crystal cell, the two components move out of phase, that is, light travels faster along one eigen-axis than it does along the second eigen-axis. The amount of delay between the fast and slow eigen-axes is known as the "retardance." The retardance will determine how much light exits the cell. (col. 4:3-57; fig. 1)

Structure: A liquid crystal cell that includes a liquid crystal material located between two electrodes that are connected to a drive signal source that supplies an ac drive signal, or equivalents thereof. (col. 3:60-64; fig. 1)

2. "**Eigen-axes**" are indices of refraction along which polarized light travels through a liquid crystal cell. The eigen-axes are orthogonal to each other (they are intersecting). The eigen-axis along which light travels faster is known as the fast axis, the eigen-axis along which light travels slower is known as the slow axis. (col. 3:63-col.4:8; col. 4:25-28) Polarized light traveling along either eigen-axis remains linearly polarized and exits the liquid crystal cell along the same eigen-axis. (fig. 1, col. 4:43-57)

The court declines to add the additional language suggested by Apeldyn, i.e., that linearly polarized light will exit the cell along the same eigen-axis "independent of the applied voltage." (D.I. 487 at 2) This concept is not discussed in the specification. Moreover, the requirement that the polarized light must exit along the same eigen-axis negates any need for further limitation.

3. "**[F]irst drive means, connected to said first retarder means, for**

supplying said first signal to said first retarder means:"

§ 112 ¶ 6 function: The drive signal source provides the voltage to the liquid crystal cell that changes the alignment of the liquid crystal material which, in turn, causes the eigen-axes of a polarized light beam to go out of phase. It does so through the operation, *inter alia*, of the first control means. (col. 3:60-64; 4:19-21; 4:43-53)

Structure: A square wave generator, a waveshape control unit, and an amplitude modulator, or equivalents thereof. (col. 6:66-col. 7:26; fig. 7)

4. "**[F]irst control means for changing said retardance from a first retardance to a second retardance by causing said first signal to change**:"

§ 112 ¶ 6 function: The waveshape control unit includes a circuit that determines when to change the applied voltage of the ac signal in order to cause a change in the cell retardance. According to the invention, the first control means switches the voltage of the applied signal from an amplitude required to maintain a first retardance, to a voltage higher than that corresponding to the amplitude required to maintain a second retardance, than switches to the voltage corresponding to the amplitude required to maintain a second retardance. (col. 6:66-col. 7:26; fig. 7)

Structure: The waveshape control unit of figure 7, or equivalents thereof. (*Id.*)

5. "**[M]eans for aligning said liquid crystal material in a predetermined manner**:"

§ 112 ¶ 6 function: Aligning the liquid crystal material in a predetermined manner.

Structure: Alignment layers of the liquid crystal cell retarder made of rubbed

polyimid or sputtered silicon monoxide and disposed on the inside of the electrodes, or equivalents thereof. (col. 5:3-8; fig. 2)

6. "**[M]eans for applying to said transparent electrodes as said first signal an ac voltage of selected amplitude, and said control means comprises means for selecting said amplitude**:"

§ 112 ¶ 6 function: Producing an ac signal of selected amplitude that is applied to the transparent electrodes.

Structure: The waveshape control unit and amplitude modulator, or equivalents thereof. (col. 6:66-7:26; fig. 7)

7. "**[M]eans for reducing, for a period of time, said amplitude of said signal below that amount needed to change the retardance of said retarder means to a new, selected value**:"

§ 112 ¶ 6 function: Reducing the amplitude of the signal to change the retardance to a new selected value, and determining when to change the signal to an amplitude that corresponds to a new selected retardance value.

Structure: A waveshape control unit determines when to change the signal to an amplitude that corresponds to a new selected retardance value, and an amplitude modulator reduces the amplitude of the signal to change the retardance to a new selected value, or equivalents thereof. (col. 6:66-7:26; fig. 7)

8. "**[C]ontrol means for controlling said amplitude**:"

§ 112 ¶ 6 function: Controlling the amplitude of the signal.

Structure: An amplitude modulator, or equivalents thereof. (col. 6:66-7:26; fig. 7)

United States District Judge